Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1 - 8 (canceled)

Claim 9 (currently amended): A solder configuration~~,~~ comprising a pad having a lower, substantially planar surface and an upper surface characterized as substantially completely non-planar and circuitous and adapted to receive solder, thereby forming a solder boundary portion of a solder joint, ~~said non planar and circuitous surface being disposed within an intermetallic region encompassing said surface of said pad and said solder~~ whereby a crack forming in said solder proximate ~~a~~ said solder boundary ~~with said intermetallic region~~ is influenced to proceed in a direction substantially parallel to said non-planar and circuitous upper surface, thereby lengthening its travel, and ~~preventing failure~~ increasing fatigue life of said solder joint.

Claim 10 (currently amended): A solder configuration~~,~~ comprising a pad having a lower, substantially planar and an upper surface characterized as a substantially completely non-planar, serpentine surface adapted to receive solder, thereby forming a solder boundary portion of a solder joint, said solder boundary defining ~~non-planar and serpentine surface being disposed within~~ an intermetallic region ~~encompassing said surface of said pad and said solder~~ extending therefrom and penetrating both said solder and said upper surface of said pad, whereby a crack forming in said solder proximate ~~a~~ said solder boundary ~~with~~ and within said intermetallic region in said solder is influenced to proceed in a direction substantially parallel to said non-planar and serpentine upper surface along a non-planar, serpentine path, thereby lengthening its travel, and ~~preventing failure~~ increasing fatigue life of said solder joint.

Claim 11 (withdrawn): A solder configuration, comprising a pad having a surface upon which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface being characterized as non-planar and having a plurality of steps, whereby a crack forming in said solder is influenced to proceed along said interface with a non-planar, stepped path, thereby lengthening its travel, and preventing failure of said solder joint.

Claim 12 (withdrawn): A solder configuration, comprising a pad having a surface upon which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface being characterized as non-planar and having a plurality of concentric interruptions, whereby a crack forming in said solder is influenced to proceed along said interface with a non-planar, interrupted path, thereby lengthening its travel, and preventing failure of said solder joint.

Claim 13 (withdrawn): A solder configuration, comprising a pad having a surface upon which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface being characterized as non-planar and having a plurality of interdigitated interruptions, whereby a crack forming in said solder is influenced to proceed along said interface with a non-planar, interrupted path, thereby lengthening its travel, and preventing failure of said solder joint.

Claim 14 (withdrawn): A solder configuration, comprising a pad having a surface upon which an intermetallic boundary interface is disposed, said intermetallic boundary interface defining a separation between said pad and solder that forms part of a solder joint, said intermetallic boundary interface being characterized as non-planar and having a cross-shaped interruption, whereby a crack forming in said solder is influenced to proceed along said interface with a non-planar, interrupted path, thereby lengthening its travel, and preventing failure of said solder joint.

Claim 15 (new): A solder configuration comprising:

a) a pad having a lower, substantially planar lower and an upper surface characterized as substantially completely non-planar and circuitous and adapted to receive solder;

b) solder applied to said upper surface thereby forming a solder joint therewith; and

c) an intermetallic region formed adjacent said upper surface and penetrating into both said pad and said solder adjacent said upper surface of said pad, said intermetallic region following a path having a shape substantially identical to said non-planar and circuitous upper surface such that a crack forming proximate said upper surface of said pad and within said intermetallic region is influenced to proceed in a direction substantially parallel to said non-planar and circuitous upper surface, thereby lengthening its travel, and increasing fatigue life of said solder joint.

Claim 16 (new): A surface mounting attachment system utilizing a solder bead for attaching an electrical component to a solder pad on a substrate, the improvement comprising: a solder pad on said substrate having a substantially planar lower surface disposed on said substrate and an upper surface characterized as substantially completely non-planar and circuitous and adapted to receive solder, such that when solder is applied thereto so as to form a solder joint, any crack in said solder proximate said upper surface of said solder pad is influenced to proceed along a path substantially conforming to said non-planar and circuitous upper surface, thereby lengthening its travel, and preventing failure of said solder joint.